Golden Gate Viaduct
Yellowstone National Park
Teton County
Wyoming

HAER No. WY-3

PHOTOGRAPHS

PHOTOCOPIES OF ORIGINAL DRAWINCS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Washington, D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

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GOLDEN GATE VIADUCT

Date:	ca. 1933.
Location:	Yellow stone National Park, Teton Co. WY.
Built by:	Morrison-Knudson Construction Co.
Owned by:	National Park Service.
Significance:	The Golden Gate Viaduct is an interesting example of reinforced concrete bridge construction built during an important era in the development of the National Park System.
Transmitted by:	Dan Clement, 1983.

The Golden Gate Bridge is located in Yellowstone Park on the Mammoth-to-Norris road, approximately 3 miles south of Mammoth. The name "Golden Gate" refers to the small gorge through which the road passes. The walls of the gorge are a yellowish rock (volcanic tuff) and are at one point so steep that it was necessary to build a viaduct or bridge along the edge of the wall to carry the road.

The Golden Gate was first used as a roadsite in the mid-1880's. Starting in September, 1883 and finishing in June, 1885, the U.S. Army Corps of Engineers, under Lt. Dan Kingman, Engineer Officer of the Department of the Platte, built a five-mile section of road from Mammoth Hot Springs to Swan Lake. This road included a wooden trestle 224 feet in length along the western wall of the Golden Gate. In order to build this first bridge it was necessary to move over 14,000 cubic yards of solid rock, and this was done primarily with explosives. The cost of the entire five-mile stretch was reported as over $14,000, and the bridge was said to cost "$3 per running foot." Though the work was not officially completed until early in the 1885 season, some sources indicate that traffic used it at least part of the year before.

Construction of a new concrete bridge, in the same location, began in 1900. The Engineer Officer at that time, Captain Hiram Chittenden, stated that "the condition of the old wooden bridge has become such as to excite general uneasiness and concern among the traveling public..." Though it was, in fact, still safe, it was replaced with a concrete structure. Concrete was used rather than steel because it did not require such precise on-site measurements as steel and would allow the Engineers to finish the job more quickly. The work was completed in 1901 at a cost of slightly less than $9,000.

In 1932 a contract was given to S.J. Groves and Son Construction Company to build a tunnel through a protruding portion of the canyon wall. This project was carried on through the winter of 1932-1933, but on May 23, 1933 the tunnel, nearing completion, caved in and the work was never resumed. Though it would not have replaced the bridge, the tunnel would have added another dimension to the Yellowstone road system, as well as another intrusion on the natural scene at the Golden Gate. At about the same time a contract was given to the Morrison-Knudson Construction Company to reinforce and widen the aging bridge. Steel columns were placed over the old concrete ones and the road bed was extended several feet more from the canyon wall. By July of 1933 the work on this project was practically finished. Its cost, including grading of a little less than a mile of adjacent roadway, was $140,000.

In 1974 the bridge was inspected "under the direction of the Federal Highway Administration," and was found unsafe for normal traffic. At this time it was determined to limit traffic to vehicles of ten tons or less, traveling only one way at a time. A traffic light was installed at each end of the bridge. Because of its curve, which conforms to the face of the cliff, the traffic on each end of the bridge (stopped at the traffic signals) is unable to see traffic at the opposite end.

In the late fall of 1976 the old structure was removed to make way for a new bridge, to be similar in general appearance and location, built of pre-stressed reinforced concrete. It will also be several feet wider. It is planned to have this bridge open for at least one-way traffic by June, 1977.

Detailed Sources:

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